

CLAIMS:

1. A digital communication device for identifying and communicating with other digital communication devices within a communication range, comprising:

a transmitter configured to transmit a control signal and a voice signal;

a receiver configured to receive the control signal and the voice signal;

a user interface having a display area; and

a computational unit configured to control the transmitter to periodically transmit identifying information as the control signal, the control signal being received as remote identifying information by the other digital communication devices within the communication range, and information corresponding to at least a portion of the remote identifying information being displayed on the display area of each of the other digital communication devices receiving the control signal.

2. The digital communication device according to Claim 1, further comprising:

a speaker configured to output the voice signal received by the receiver; and

a microphone configured to receive a voice communication from a user,

wherein the user interface includes a transmit button, the computational unit is configured to control the transmitter and the microphone to transmit the voice communication as the voice signal upon selection of the transmit button by the user, the voice signal is received by the other digital communication devices within the communication range.

3. The digital communication device according to Claim 2, further comprising:

a storage unit configured to store the voice communication,

wherein the user interface includes a record button, and the computational unit is configured to control the microphone and the storage unit to capture the voice communication using the microphone and to record the captured voice communication to the storage unit upon selection of the record button by the user.

4. The digital communication device according to Claim 3, wherein the user interface includes a play button, and the computational unit is configured to control the speaker and the storage unit to output the recorded voice communication on the speaker upon selection of the play button by the user.

5. The digital communication device according to Claim 2, wherein the remote identifying information is displayed on the display area as a graphical list selectable by the user, the computational unit is configured to control the transmitter to transmit the voice communication as the voice signal to one or more of the other digital communication devices corresponding to one or more selected remote identifying information upon selection of the transmit button by the user, the voice signal is received by the other digital communication devices within the communication range, and wherein the voice communication is output on the speaker of the one or more other digital communication devices within the communication range that correspond to the one or more selected remote identifying information.

6. The digital communication device according to Claim 5, wherein the communication range comprises a local communication range corresponding to the digital communication device and an extended communication range corresponding to all digital communication devices, at least one of the control signal and the voice signal is transmitted from the digital communication device to a second digital communication device within the local communication range, and the at least one of the control signal and the voice signal is transmitted from the second digital communication device to a third digital communication device outside the local communication range and within the extended communication range.

7. The digital communication device according to Claim 6, wherein the second digital communication device is a fixed tower digital communication device.

8. The digital communication device according to Claim 5, wherein a plurality of remote identifying information is selectable by the user, and the voice communication is output exclusively on the other digital communication devices within the communication range that correspond to the plurality of selected remote identifying information.

9. The digital communication device according to Claim 8, wherein the voice communication comprises an encrypted voice communication.

10. The digital communication device according to Claim 5, wherein the remote identifying information is selectable by the user, and the voice communication is output

exclusively on one of the other digital communication devices within the communication range that correspond to the selected remote identifying information.

11. The digital communication device according to Claim 10, wherein the voice communication comprises an encrypted voice communication.

12. The digital communication device according to Claim 5, wherein the remote identifying information is sortable into groups by the user.

13. The digital communication device according to Claim 12, wherein the groups comprise at least one of a buddy list, a within-range list, a blocked list, and a group list.

14. The digital communication device according to Claim 2, wherein the user interface includes a free-for-all mode button, the computational unit is configured to control the transmitter to transmit voice communication as the voice signal to the other digital communication devices upon selection of the free-for-all mode and transmit buttons by the user, the voice signal is received by the other digital communication devices within the communication range, and the voice communication is output on the speaker of the other digital communication devices within the communication range.

15. The digital communication device according to Claim 2, wherein the user interface includes an emergency mode button, the computational unit is configured to control the transmitter to transmit voice communication as a voice signal to the other digital communication devices upon selection of the emergency mode and transmit buttons by the user, the voice signal is received by the other digital communication devices within the communication range, and the voice communication is output on the speaker of the other digital communication devices within the communication range.

16. The digital communication device according to Claim 2, wherein the user interface includes a distress call button, the computational unit is configured to control the transmitter to transmit a distress call signal to the other digital communication devices upon selection of the distress call button by the user, the distress call signal is received by the other digital communication devices within the communication range, and the distress call signal is represented on the other digital communication devices within the communication range by at

least one of an audible signal output on the speaker, a visual indication displayed on the display area, and a vibration.

17. The digital communication device according to Claim 1, further comprising: a storage unit configured to store one or more remote identifying information, wherein the user interface includes a store button, and the computational unit is configured to control the storage unit to store the one or more remote identifying information upon selection of the store button by a user.

18. The digital communication device according to Claim 2, wherein the user interface includes a block button, and the computational unit is configured to block the voice communication upon selection of the block button by the user.

19. The digital communication device according to Claim 18, wherein the remote identifying information is displayed on the display area as a graphical list selectable by the user, and wherein the computational unit is configured to block the voice communication from the other digital communication devices within the communication range that correspond to one or more selected remote identifying information.

20. The digital communication device according to Claim 1, wherein at least one of the control signal and the voice signal is encrypted during transmission.

21. The digital communication device according to Claim 1, further comprising: a storage unit configured to store one or more configuration parameters, wherein the display area includes a configuration interface configured to receive one or more configuration parameters modified by a user.

22. The digital communication device according to Claim 21, wherein the one or more configuration parameters comprise at least one of date and time, announcement options, volume control, advertisement options, upload and download options, blocking options, group options, and storage options.

23. The digital communication device according to Claim 1, wherein the transmitter is configured to transmit a non-verbal text signal and the receiver is configured to

receive the non-verbal text signal, the computational unit is configured to control the transmitter to transmit text communication as the non-verbal text signal to the other digital communication devices, the non-verbal text signal is received by the other digital communication devices within the communication range, and the text communication is displayed on the display area of each of the other digital communication devices receiving the non-verbal text signal.

24. The digital communication device according to Claim 1, wherein the receiver is configured to receive one or more advertisements from a plurality of advertisers, and wherein the one or more advertisements are displayed on the display area of each of the other digital communication devices receiving the one or more advertisements.

25. The digital communication device according to Claim 1, wherein the identifying information includes status information corresponding to a current status of the digital communication device.

26. The digital communication device according to Claim 2, wherein the identifying information includes status information corresponding to a current status of the digital communication device.

27. The digital communication device according to Claim 26, wherein the status information comprises at least one of a busy status, a sleep status, a do not disturb status, and a hardware failure status.

28. The digital communication device according to Claim 1, wherein the computational unit is further configured to control the transmitter to transmit status information corresponding to a current status of the digital communication device as the control signal to the other digital communication devices, the control signal is received as remote status information by the other digital communication devices within the communication range, and the status information is displayed on the display area of each of the other digital communication devices receiving the control signal.

29. The digital communication device according to Claim 28, wherein the status information comprises at least one of a busy status, a sleep status, a do not disturb status, and a hardware failure status.

30. The digital communication device according to Claim 1, wherein the transmitter is configured to transmit the control signal and the voice signal separately.

31. The digital communication device according to Claim 1, wherein the control signal and the voice signal are encrypted.

32. The digital communication device according to Claim 2, wherein the control signal and the voice signal are encrypted.

33. The digital communication device according to Claim 2, wherein at least one of an audible signal output on the speaker, a visual indication displayed on the display area, and a vibration occurs when the remote identifying information is initially displayed on the display area of each of the other digital communication devices receiving the control signal.

34. The digital communication device according to Claim 2, further comprising a system unit configured to determine a current location using radio signals.

35. The digital communication device according to Claim 34, wherein the radio signals comprise Global Positional System (GPS) orbiting space satellite signals.

36. The digital communication device according to Claim 35, wherein the current location is displayed on the display area of the user interface.

37. The digital communication device according to Claim 35, wherein the identifying information includes the current location.

38. The digital communication device according to Claim 37, wherein a relative direction is displayed on the display area of the user interface and corresponds to the current location of each of the other digital communication devices within the communication range.

39. The digital communication device according to Claim 2, wherein the control signal and the voice signal are transmitted and received using at least one of a digital spread spectrum frequency protocol, a Blue tooth protocol, Wi-Fi protocol, Code Division Multiple Access (CDMA) protocol, Time Division Multiple Access (TDMA) protocol, Frequency Division Multiple Access (FDMA) protocol, and Global System for Mobile communication (GSM) protocol.

40. The digital communication device according to Claim 2, wherein the digital spread spectrum frequency protocol comprises a 900MHz digital radio spectrum frequency protocol.

41. The digital communication device according to Claim 2, wherein a time period between periodic transmissions of the control signal is configurable.

42. The digital communication device according to Claim 41, wherein the time period is manually configurable.

43. The digital communication device according to Claim 41, wherein the time period is automatically configured to correspond to a network load.

44. The digital communication device according to Claim 2, further comprising:
a digital camera; and
a video processing unit configured to receive video from the digital camera,
wherein the transmitter is configured to transmit a video signal, the receiver is configured to receive the video signal, the computational unit is configured to control the video processing unit and the transmitter to transmit the video from the digital camera as the video signal, the video is received by the other digital communication devices within the communication range and displayed on the display area of the other digital communication devices receiving the video signal.

45. The digital communication device according to Claim 2, further comprising a multi-purpose interface comprising at least one of a computer interface and a keyboard interface.

46. The digital communication device according to Claim 45, further comprising:
a storage unit configured to store one or more configuration parameters,
wherein the computer interface connects a computer having a configuration interface
configured to receive the one or more configuration parameters modified by the user.

47. The digital communication device according to Claim 2, further comprising a
removable memory interface configured to receive a removable memory device.

48. A method for identifying and communicating with digital communication
devices within a communication range, comprising:
transmitting identifying information as a control signal periodically;
receiving the control signal as remote identifying information corresponding to the
digital communication devices within the communication range;
displaying information corresponding to at least a portion of the remote identifying
information on a display area corresponding to the digital communication devices receiving
the control signal;
capturing a voice communication via a microphone and transmitting the voice
communication as a voice signal upon selection of a transmit button by a user; and
receiving the voice signal and outputting the voice communication on a speaker upon
reception.

49. The method according to Claim 48, wherein displaying comprises displaying
the remote identifying information on the display area as a graphical list selectable by a user,
and wherein transmitting the voice communication comprises transmitting the voice
communication as a voice signal to one or more digital communication devices
corresponding to the selected remote identifying information.

50. A computer program for identifying and communicating with digital
communication devices within a communication range, comprising:
a first computer code for transmitting identifying information as a control signal
periodically;
a second computer code for receiving the control signal as remote identifying
information corresponding to the digital communication devices within the communication
range;

a third computer code for displaying information corresponding to at least a portion of the remote identifying information on a display area corresponding to the digital communication devices receiving the control signal;

a fourth computer code for capturing a voice communication via a microphone and transmitting the voice communication as a voice signal upon selection of a transmit button by a user; and

a fifth computer code for receiving the voice signal and outputting the voice communication on a speaker upon reception.

51. The computer program according to Claim 50, wherein the third computer code comprises displaying the remote identifying information on the display area as a graphical list selectable by a user, and wherein the first computer code comprises transmitting voice communication as a voice signal to one or more digital communication devices corresponding to the selected remote identifying information upon selection of a transmit button by the user.